DEVELOPING ADOLESCENT LITERACY IN HIGH POVERTY MIDDLE SCHOOLS: THE IMPACT OF TALENT DEVELOPMENT’S REFORMS ACROSS MULTIPLE YEARS AND SITES

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INTRODUCTION

In calling for Congress and the President to start a national Adolescent Literacy Initiative, the Alliance for Excellent Education noted that approximately six million middle school and high school students have very low literacy levels that not only affect their achievement in English and language arts classes, but that also make it very difficult for them to master content in other subjects (Joftus, 2002). These students typically have mastered word attack skills (and some can even read aloud smoothly and with expression) but have very low comprehension (Balfanz, McPartland & Shaw, 2002a; Buly & Valencia, 2002; Snow, 2002).

The adolescent literacy crisis is not one that affects all schools equally. Young adults who are poor comprehenders are much more likely to be found in high poverty, high minority schools than in other schools. It is not unusual for over 70% of the eighth-graders in high poverty, high-minority middle schools to
comprehend at “below basic” levels (Balfanz, Spiridakis & Neild, 2002c). Due,
at least in part, to not receiving the learning opportunities and support they
needed in middle school, less than 50% of eighth-graders from high-poverty high
minority schools graduate from high school in five years (Balfanz & Legters,
2001). In fact, many of these students never even make it to tenth grade (Neild &
Balfanz, 2001; Neild, Stoner-Eby & Furstenberg, 2001) partly because they find it
difficult to take in new knowledge independently by reading as required by the high
school curriculum.

One reason for the adolescent literacy crisis is that America has focused too
exclusively on early reading. Educators, policy makers and high-profile literacy
movements have all focused on “reading by nine” as if kids can learn all they need
to learn about reading in the early grades and – if given the right kinds of early
instruction and experience – will almost inevitably make a smooth transition to
higher levels of literacy. Partly as a result of the priority given to early reading,
fourth graders in the United States perform close to the very top in international
assessments of early reading, but this achievement advantage diminishes in the
middle and high school grades (Snow, 2002). For example, in the 1990–1991
academic year, only Finland beat the United States in fourth grade reading scores
in one international study of 32 countries, but American ninth-graders were tied for
eighth place (Elley, 1992). While an 8th place ranking in young adolescent literacy
is neither praiseworthy nor alarming, it is alarming that “the U.S. is the world leader
in literacy inequality among young adults” (Sum, Kirsch & Taggart, 2002, p. 26).
This level of inequality reflects the huge gap in skills between the hundreds of
thousands of middle grades students (concentrated mainly in high poverty schools)
who can barely comprehend text of any complexity and the hundreds of thousands
of middle grades students (concentrated in more advantaged schools) who develop
relatively sophisticated literacy skills. The adolescent literacy challenge is to close
this gap so that all middle grades students can – by the time they enter high
school – “read a variety of materials with ease and interest, can read for varying
purposes, and can read with comprehension even when the material is neither easy
to understand nor intrinsically interesting” (Snow, 2002, p. xiii).

But how can we successfully meet this challenge? Carol Midgley was a pioneer
in suggesting that students in the middle grades could attain higher achievement
and would develop and maintain adaptive achievement-related attitudes, values,
and motivational orientations if certain key aspects of their classroom environment
were reformed. One theme that pervaded both her early work (e.g. Midgley, 1987;
Midgley, Feldlaufer & Eccles, 1988, 1989) and her later work (e.g. Midgley, 2002)
was the paramount importance of teachers’ beliefs, behaviors, and classroom
practices in powerfully influencing student achievement and motivation. For
example, in analyzing the beliefs of middle grades teachers, Midgley’s early work
documented how they were less likely than elementary teachers to feel efficacious (e.g. to be certain that they are making a difference in the lives of their students, to be confident in their ability to get through to even the most difficult or unmotivated students, and to be able to help most of their students achieve at a high level). She also found that middle grades teachers were less likely than elementary teachers to trust students to work together productively, were very concerned about student misbehavior and maintaining control of their classrooms, and often provided their students with academic tasks that were less demanding cognitively (Midgley, 1993).

Unfortunately, these problems still have not been resolved. For example, middle grades teachers are still more likely than elementary teachers to doubt their personal teaching efficacy (Marachi, Gheen & Midgley, 2000; Roeser, Marachi & Gehlbach, 2002). Middle grades teachers, especially in high poverty schools, still feel that student behavior is out of control in the classroom and in the hallways (Balfanz, Ruby & MacIver, 2002b; Useem, 2003) and few feel capable of managing the hands-on and cooperative group activities that are needed to teach a state-of-the-art instructional program that focuses on understanding (MacIver et al., 2000; MacIver, Young & Washburn, 2002; Ruby, 1999). Worst of all, in high-poverty middle schools, far too many students experience “learning-bereft” classrooms where – in one or more core subjects – an entire school year is in fact “wasted” (Corbett & Wilson, 1997, p. 27) either because the class is taught by a teacher unwilling or unable to explain concepts, problems, or assignments in a way that students can understand or because the class is disruptive (which results in the class being taught by multiple teachers if the initial teacher resigns).

One major reason why so many middle school teachers are inefficacious is that they typically have little specific preparation to teach at the middle school level. Because of the lack of teacher education programs and licensure that focus on the middle school level, the majority of young adolescents are taught by teachers who prepared for a career as an elementary or high school teacher. Fewer than one in four middle-grades teachers have received specialized training to teach at the middle school level before they begin their careers (Jackson & Davis, 2000; McEwin & Dickinson, 1997; McEwin, Dickinson & Jenkins, 1996; National Forum to Accelerate Middle Grades Reform, 2002).

It is, therefore, not surprising that schools have long had difficulty in attracting and retaining middle grades teachers. Teachers who are elementary-certified or who have secondary certification(s) understandably prefer placements in elementary schools and high schools, respectively, often accepting middle school positions only as a last resort (Useem, 2001). And those who do accept such a position struggle to be and feel efficacious because they are assigned to subject areas and/or grade levels for which they are underqualified. For example, an
elementary-certified teacher may be well-prepared to teach beginning reading but may have little idea how to assist middle grades students in mastering the intermediate skills that need to be developed in the middle grades. Even a secondary-certified English teacher who accepts a middle grades assignment is often at a loss in teaching intermediate skills because his/her preparatory courses and field experiences assumed that he/she would be teaching mainly students who had already mastered such intermediate skills and would be ready for the more advanced curriculum and instruction of a high school program.

Though middle school staffing is often a challenge even in suburban and rural districts, efforts to improve literacy in high-poverty urban middle schools are particularly “hampered by the inadequate preparation levels of many teachers, the common practice of assigning teachers to courses for which they have no specialized knowledge, and the rapid turnover of schools’ instructional staff from year to year” (Useem, 2001, p. 144; see also, Balfanz & MacIver, 2000; Cooney, 1998; Cooney & Bottoms, 2003; Ingersoll, 1999; McEwin & Dickinson, 1995; Ruby, 2002; Strauss, 1999; Useem et al., 1997). Building and sustaining momentum in middle grades reform is complicated when the typical urban middle school has a significant outflow of veteran teachers and a large inflow of new or relatively inexperienced teachers or uncertified teachers, and several unfilled vacancies each year. For example, in the 1999–2000 school year in Philadelphia, 14% of the teachers in that city’s middle schools were new, on average. A study of a subsample of 60 of these new teachers indicated that only 10% of the teachers preferred teaching in the middle grades and that only 14% had gained experience in the seventh or eighth grade as student teachers (Useem, 2001). Of the new teachers assigned to teach reading/English language arts (RELA), Useem classified 42% of them as “poorly prepared” because they had zero to two courses in that content area and no RELA teaching methods course, or a methods course but only zero or one course in the content area, or had no pedagogy coursework at all. In most of these cases, the teachers themselves also indicated during an interview that they were not qualified to teach RELA in the middle grades. After three years, only 19 of the 60 teachers (32%) remained at their original schools (Useem, 2003).

Another factor limiting the achievement of many middle school students – in addition to receiving instruction from teachers who are underprepared and/or feel inept – is that their schools are in need of redesign with student motivation in mind. Midgley and her colleagues were perhaps the first to argue for a schoolwide approach to enhancing student motivation. They recognized the practical need to teach middle grades educators how to alter curriculum and instruction, authority structures, recognition practices, grouping practices, evaluation and assessment procedures, and time use throughout the school in
ways that increase the emphasis on task mastery, academic progress and learning for its own sake (Maehr & Midgley, 1991, 1996; Midgley, 1993).

For example, Midgley helped middle schools to reconsider the practice of sorting students into classes or tracks by “ability.” The motivational problems and disappointing performance displayed by many students is a direct result of having been assigned to a lower ability class that is denied the more challenging, content-rich, higher-quality instructional program that some students in the school receive. Not only does between-class ability grouping in the middle grades cause gross inequalities in students’ access to knowledge, instructional resources, and well-qualified teaching (Wheelock, 1992), it promotes a focus on competition and relative ability rather than a focus on task mastery (Maehr & Midgley, 1991; Midgley, 1993). According to the goal-theory approach to motivation that Midgley championed, when students are more “ability focused” than “task focused,” they are less likely to develop a sense of efficacy and a willingness to try hard, take on challenges, and persist in the face of difficulty (Maehr & Midgley, 1991, 1996).

Similarly, Midgley and her colleagues called for increased opportunities for peer interaction and cooperation that allow students to experience greater autonomy and develop responsibility, leadership skills, social skills and skills in self-regulation. She called for an overhaul of assessment and evaluation practices to de-emphasize social comparison and to instead help students accurately gauge their progress in meeting their goals and purposes and in developing their skills and understandings. She suggested revising middle school schedules to allow teachers extended periods so that there would be time for “teaching for understanding” instructional approaches that move away from a traditional lecture, recitation, and seatwork format in favor of active, hands-on, cooperative, and project-based approaches to learning.

For educators seeking to address the adolescent literacy crisis in high poverty middle schools, a key implication of Midgley’s work is that the learning opportunities and learning environments that students experience day-to-day have a dramatic impact on their motivational orientations and thereby promote or inhibit students’ willingness and capacity to do what it takes to become proficient and voracious readers. Students need high-quality mastery-focused learning opportunities in every classroom every day. Students also need a supportive, “no excuses” learning environment (Wilson & Corbett, 2001) where teachers push students to understand; where extra help, enrichment, and emotional and social support are provided to all; and where communal organization structures (Balfanz, Ruby & MacIver, 2002b) help students and teachers develop strong bonds and a shared sense of purpose that allow innovative and adaptive teaching and deep learning to flourish.

But, in order to reliably provide students with the opportunities and supports they need, teachers need extensive materials, training, and in-classroom support.
Specifically, teachers’ ability to promote meaningful learning, to adapt instruction to the levels and interests of students, and to support student autonomy and peer collaboration can be greatly enhanced by providing teachers with: (1) a coherent curriculum that is coordinated and builds grade by grade; (2) the essential supplies and learning materials they need to teach; (3) on-going subject and grade-specific professional development which helps them gain the content knowledge, instructional strategies, classroom management advice, and hands-on experience they need to successfully implement the instructional program; and (4) in-classroom assistance from a respected peer who is there to support rather than evaluate (MacIver, Young, Balfanz, Shaw, Garriott & Cohen, 2001). In short, a solid foundation of sustained support and learning opportunities for teachers is needed to overcome the middle school teacher staffing crisis that is preventing so many students in high poverty middle schools from receiving mastery-oriented instruction from confident and efficacious teachers.

The Talent Development Middle School model is a national comprehensive school reform especially designed for high poverty middle schools (Balfanz, Ruby & MacIver, 2002b; MacIver et al., 2003). The model involves reforms that are research-based and mastery-focused. The reforms are phased-in over multiple years and involve major changes in a school’s curriculum and instruction, professional development and instructional coaching, school organization and climate. This chapter reports results from the first three schools to implement Talent Development’s instructional program in reading/English language arts (RELA). In three related studies, we examine the impact of the reforms on reading achievement, on classroom practices, and on selected motivation-related outcomes.

**Talent Development’s Instructional Program in Reading/English Language Arts**

A basic feature of the TD program is to double English instructional time by offering 90-minute classes all year. The instructional program used in these classes, Johns Hopkins University’s *Student Team Literature/Talent Development Writing*, is a comprehensive middle school language arts curriculum that is designed to ensure students develop intermediate skills and meet middle grade standards in reading, language arts, and writing. The National Staff Development Council selected the Student Team Literature Program for inclusion in its “consumer’s guide” of effective programs (Killion, 1999). The program emphasizes improving students’ skills in reading comprehension, vocabulary, literary analysis, writing, and student collaboration, using outstanding literature, higher-level questioning, literature-related writing, and working with other students. It includes:
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(1) curricular materials (teaching guides and Partner Discussion Guides for over
130 books) to assist students’ study of high-quality fiction and non-fiction books
that are age-appropriate and culturally diverse; and (2) mastery-focused activities,
instructional practices, peer assistance processes, and assessments. Student Team
Literature Partner Discussion Guides include literature-related writing activities
(e.g. “Write a newspaper article and headline about the bombing in Birmingham,
“Write a poem about the Watsons’ trip to Alabama.”), a systematic study of the
writer’s craft as displayed in the book being studied (e.g. activities in which
students interpret the impact of author’s word choice, symbolism, and literary
elements), and mini-lessons that focus on particular reading strategies, language
arts objectives, or literary skills in the context of the literature being studied.
Talent Development Writing complements Student Team Literature and extends
the explicit teaching and practice of writing, critical reading, editing, and revision.
It emphasizes preparing students for the writing assignments through modeling
activities where teachers think aloud and demonstrate their own approach to
writing and “springboard activities” intended to spark the creative process and
fill gaps in students’ knowledge that make it difficult for them to generate content
in response to a writing assignment. It also uses teacher-student conferences and
conferences with student partners to provide students with the kind of targeted
help they need in order to become more proficient.

Sustained Subject-Specific Professional Development and
In-Classroom Coaching

Teachers were offered multiple tiers of professional development linked to the
implementation of Talent Development’s instructional program in RELA. Several
days of summer training were followed by monthly three-hour workshops and
weekly coaching during and after classroom visits by an expert RELA instructor
who was an adolescent literacy specialist.
The summer workshops introduced Student Team Literature as a research-based
cooperative approach to teaching literature that strengthens students’ reading,
thinking, writing, and social skills. Teachers were provided with a baseline of
knowledge, modeling, and simulations of each of Student Team Literature’s
major components: high quality books written for adolescent readers that reflect
their experiences, problems, and cultures; Partner Discussion Guides (reading
comprehension guides written to accompany each book that include a wide
variety of activities which lead students to become critical thinkers whose
working vocabularies expand and whose knowledge of reading strategies and of
the writer’s craft increases with each book); the cycle of instruction (background
building, previewing and predicting, direct instruction and modeling, silent
reading, partner reading, partner or team practice and discussion, vocabulary
building discussions and activities to help students learn new words and practice
using them in appropriate and familiar contexts, independent response activities,
guided whole-class discussion, literature-related writing and extension activities,
individual assessment); and Listening Comprehension/Read Aloud activities
used to teach students how proficient readers make meaning of text, how good
writer’s write and how to recognize and interpret literary elements and devices.
In addition, teachers were given tips, methods, and hands-on activities designed
to assist them in teaching social skills to their students, in managing a cooperative
learning classroom, and in forming and sustaining successful student teams.

The monthly seminars allowed teachers to troubleshoot problems with
instruction and to extend their knowledge and skills. Topics included selecting
appropriate literature, teaching the composition of “meaningful sentences”; fluency, vocabulary, and comprehension assessments and interventions, differentiating instruction, using mini-lessons to teach reading, writing, and grammar skills; addressing the needs of English Language Learners; organizing Book Talks; strategies for teaching non-fiction literature; teaching students to organize information; movement-oriented activities; and several others. Time was also provided for the teachers to dialogue with each other about what was and was not working in their classrooms. Make-up sessions were offered as needed.

In all, teachers had access to over 36 hours of professional development per year.
Following the union contract, attendance was voluntary and teachers were paid the district rate for attending training outside of the school day (approximately 20 dollars per hour). Beginning in 1998, arrangements were made with a local university to provide teachers with 3 graduate course credits if they completed 36 hours of training and related assignments.

In addition to the professional development sessions, teachers had access to in-classroom implementation support from a curriculum coach. Each Talent Development school was assigned a RELA curriculum coach who spent one to two days per week in each school working with RELA teachers in their classrooms. The curriculum coach was an experienced teacher – in some cases a Talent Development employee and in some cases a district teacher on special assignment to Talent Development. The implementation support was non-judgmental and varied from classroom to classroom but included modeling, explaining, co-teaching, assistance with lesson planning, observing lessons and providing confidential feedback, and making sure that the teacher had all the materials and training needed to implement the instructional program. The curriculum coach also worked with the teacher to make modifications to the curriculum based on the needs of each class.
In sum, the three Talent Development Middle Schools studied here made extensive and intensive whole-school changes involving organizational, instructional, and professional development reforms. The studies that follow compare these schools with matched control schools to examine how powerful these reforms were in producing changes in students’ achievement, motivation and classroom experiences in RELA.

Study 1: Reading Achievement Gains

Schools, Data, and Methods
All the middle schools in the study are large non-selective neighborhood schools in Philadelphia which serve low-income minority populations. In all three Talent Development schools, over 80% of the professional staff voted by secret ballot to implement the Talent Development Middle School whole school reform model. The Student Team Literature program described in this chapter is a central feature of the model and the staff at each school was aware that voting for the model meant, among other things, that they were voting to implement this program in the school’s reading/English language arts classes.

The school district of Philadelphia selected comparison schools that were similar to the participating schools in racial composition, high poverty status, and past performance during the period before Talent Development began in the district. These comparison schools are used in the impact analyses to assess the extent to which the achievement growth for students in Talent Development schools is different from those in similar schools that do not attempt to implement Talent Development’s instructional programs.

The most important question addressed in this study is whether the reading achievement growth of students in the first three schools to implement the Talent Development Middle School Model’s Student Team Literature instructional program was significantly higher than the growth of students in three matched comparison schools. The analysis includes longitudinal data from two cohorts of students. The first cohort of students were 5th-graders in Spring 1997 and 8th graders in Spring 2000. The second cohort of students were 5th graders in Spring 1998 and 8th graders in Spring 2001. Achievement in 5th- and 8th-grade is measured by students’ normal curve equivalent scores (NCEs) in reading on the Pennsylvania System of School Assessment (PSSA) using statewide norms. The analysis includes all students who attended one of the three Talent Development Schools or one of the three comparison schools during 6th, 7th, and 8th-grade. Fifth- and eighth-grade achievement data were available for 1,552 of the students in the two cohorts. As shown in Table 1, at the end of fifth-grade, there was not a
**Table 1.** Characteristics of Students who Attended Talent Development and Comparison Middle Schools.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Type of School</th>
<th>Talent Development (n = 890)</th>
<th>Comparison (n = 662)</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Average 5th-grade normal curve equivalent in reading</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female (%)</td>
<td>54</td>
<td>55</td>
<td>54</td>
<td>0.54</td>
<td>0.59</td>
</tr>
<tr>
<td>Special education (%)</td>
<td>17</td>
<td>13</td>
<td>17</td>
<td>0.90</td>
<td>0.06</td>
</tr>
<tr>
<td>ESL (%)</td>
<td>15</td>
<td>11</td>
<td>15</td>
<td>1.92</td>
<td>0.06</td>
</tr>
<tr>
<td>Asian (%)</td>
<td>9</td>
<td>7</td>
<td>9</td>
<td>1.40</td>
<td>0.16</td>
</tr>
<tr>
<td>Hispanic (%)</td>
<td>39</td>
<td>43</td>
<td>39</td>
<td>1.61</td>
<td>0.11</td>
</tr>
<tr>
<td>Black (%)</td>
<td>48</td>
<td>36</td>
<td>48</td>
<td>4.78</td>
<td>0.000</td>
</tr>
<tr>
<td>White (%)</td>
<td>4</td>
<td>14</td>
<td>4</td>
<td>6.61</td>
<td>0.000</td>
</tr>
</tbody>
</table>

significant difference between the reading achievement of those who would attend Talent Development Middle Schools in 6th-8th grade and those who would attend the comparison schools. There were minor differences, however, in the racial composition of the comparison schools and the Talent Development schools: the comparison schools had somewhat fewer black students and somewhat more white students than did the Talent Development schools.

We used a 3-level HLM to analyze reading achievement in fifth- and eighth-grade. There were two records for each student, one from fifth grade and one from 8th grade. We modeled students’ normal curve equivalent scores as a function of grade (a dummy variable coded “0” if the score was from a student’s fifth-grade year, and “1” if the score was from a student’s 8th grade year). Thus, the coefficient for the “intercept” represents prior achievement in Spring of fifth grade and the slope coefficient for “grade” represents the growth between the Spring of 5th and the Spring of 8th grade. At level 2, the student level, we took account of the higher prior reading achievement of female and Asian students and the lower prior reading achievement of students for whom English is a second language by including dummy variables as covariates predicting the level 1 intercept. (Additional analyses, not reported here, showed that student gender, race, and English Language Learner status were not significant predictors of achievement growth between fifth and eighth grade. Thus, these variables were not included as predictors of the level-1 slope in the analysis reported here.) At level 3, the school level, we estimated the impact of Talent Development’s Student Team Literature program on students’ reading achievement growth by including a
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A dummy variable indicating whether the school was a Talent Development school or not as a predictor of the slope coefficient from level 1.

This analysis can be summarized in equations as follows:

**Level-1 Model**

\[ Y = P_0 + P_1(\text{EIGHTH}) + E \]

**Level-2 Model**

\[ P_0 = B_{00} + B_{01}(\text{FEMALE}) + B_{02}(\text{ESOL}) + B_{03}(\text{ASIAN}) + R_0 \]

\[ P_1 = B_{10} \]

**Level-3 Model**

\[ B_{00} = G_{000} + U_{00} \]

\[ B_{01} = G_{010} \]

\[ B_{02} = G_{020} + U_{02} \]

\[ B_{03} = G_{030} + U_{03} \]

\[ B_{10} = G_{100} + G_{101}(\text{TAL.DEV.}) + U_{10} \]

Table 2 lists the coefficient estimates from this HLM model. The first part of the results shows student characteristics that predicted prior achievement (at the end of fifth grade). Specifically, girls and Asians had higher prior reading achievement than did other students and English-Language Learners had lower prior reading achievement. These results reflect the fact that, in high-poverty neighborhoods, males, blacks, Hispanics, and students who have limited English proficiency enter middle school particularly far behind state norms in reading.

**Table 2.** Modeling Prior Reading Achievement and Reading Achievement Growth: HLM Estimates.

<table>
<thead>
<tr>
<th>Fixed Effect</th>
<th>Coefficient</th>
<th>SE</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model for P0 (NCE score in Spring of 5th grade)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>24.8</td>
<td>1.12</td>
<td>0.000</td>
</tr>
<tr>
<td>Female</td>
<td>2.3</td>
<td>0.56</td>
<td>0.000</td>
</tr>
<tr>
<td>ESOL</td>
<td>−8.6</td>
<td>1.68</td>
<td>0.003</td>
</tr>
<tr>
<td>Asian</td>
<td>8.7</td>
<td>2.40</td>
<td>0.024</td>
</tr>
<tr>
<td>Model for P1 (growth between Spring of 5th grade and Spring of 8th grade)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>2.5</td>
<td>0.81</td>
<td>0.043</td>
</tr>
<tr>
<td>Talent development</td>
<td>4.3</td>
<td>0.66</td>
<td>0.000</td>
</tr>
</tbody>
</table>
The final part of the model tests whether it was an advantage to attend a Talent
Development Middle School. Specifically, the coefficient associated with the
Talent Development dummy variable indicates the average cumulative size of
the Talent Development advantage in reading growth during the middle grades
across two cohorts and multiple schools. This advantage was equal to 4.3 NCEs.
Using the most conservative method of computing effect sizes for achievement
gains, the effect in standard deviation units is 0.29. (This conservative estimate
uses the standard deviation from the original distribution of 1,552 students’
reading achievement normal curve equivalent scores in fifth-grade – 15.0 – as the
denominator.). However, since Talent Development is a school-level intervention
(a school is either a TD middle school or not), it is also meaningful to express the
effect in school-level standard deviation units. The school-level standard deviation
from the original distribution of school mean prior achievement scores in fifth
grade was 3.3. Thus, the school-level effect size is equal to 1.3 (4.3/3.3). In other
words, the adjusted mean achievement growth in the three TD schools from the end
of fifth to the end of eighth grade was 1.3 standard deviations more than in the three
comparison schools.

Educational Significance of the Achievement Gains

These effect size estimates suggest that reading achievement gains attained in
Talent Development Middle Schools were educationally significant. Another
way to show the program’s impact is to examine the percent of students making
substantial gains (more than 5 NCEs) vs. state norms between 5th and 8th grade.
As shown earlier in Table 1, the students in Philadelphia’s high poverty schools
end fifth grade substantially behind state norms (performing at about the 25th
NCE which is equivalent to the 12th percentile). It is essential to assist significant
numbers of these students to catch-up during the middle grades so that they leave
middle school in a substantially better position relative to statewide norms. Table 3
shows that 54% of the students in Talent Development schools (versus just 45%
of the students in the comparison schools) gain over five normal curve equivalents
during the middle grades. Table 3 also shows that it was an advantage to be in
a Talent Development school regardless of students’ prior achievement. This
advantage in the percentage of students making substantial gains was significant
for the whole sample, and also for students whose achievement at the end of the
elementary grades was between the 25th and 50th NCE.

The PSSA is typically used as a norm-referenced test. However, its developers
have also created four criteria-based categories to identify the reading proficiency
of each student. These categories include Below Basic, Basic, Proficient, and
Advanced. To gain a deeper understanding of the effects of the Talent Development
instructional program in RELA, we examined the level of reading proficiency
Table 3. Percent of Students Who Gained Over 5 NCEs in Reading Achievement Between the End of 5th- and End of 8th-Grade.

<table>
<thead>
<tr>
<th>Starting Point of Student at End of 5th Grade (in NCEs)</th>
<th>Type of School</th>
<th>Difference (%)</th>
<th>t Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Talent Development (%)</td>
<td>Comparison (%)</td>
<td>t</td>
</tr>
<tr>
<td>0–14.9</td>
<td>85 (n = 201)</td>
<td>79 (n = 168)</td>
<td>+6</td>
</tr>
<tr>
<td>15–24.9</td>
<td>52 (n = 223)</td>
<td>48 (n = 146)</td>
<td>+4</td>
</tr>
<tr>
<td>25–39.9</td>
<td>45 (n = 330)</td>
<td>32 (n = 231)</td>
<td>+13</td>
</tr>
<tr>
<td>40–49.9</td>
<td>33 (n = 85)</td>
<td>13 (n = 75)</td>
<td>+20</td>
</tr>
<tr>
<td>50–99.9</td>
<td>33 (n = 51)</td>
<td>26 (n = 42)</td>
<td>+7</td>
</tr>
<tr>
<td>All students</td>
<td>54 (n = 890)</td>
<td>45 (n = 662)</td>
<td>+9</td>
</tr>
</tbody>
</table>

achieved by the end of eighth grade by students in Talent Development and comparison schools. By the end of eighth grade, students in Talent Development schools were significantly more likely to be classified as at least “proficient” (satisfactory academic performance indicating a solid understanding). That is, 17% of the Talent Development students but only 12% of the comparison students had achieved the goal of being proficient readers, \( t(1550) = 2.89, p = 0.004 \). Further, Talent Development students were less likely to be classified as in the lowest achievement category, \( t(1550) = -2.42, p = 0.016 \). Specifically, 63% of the comparison students but only 57% of the Talent Development students were classified as “below basic” in reading.

Study 2: Classroom Experiences

As indicated earlier, Talent Development seeks to improve students’ learning opportunities in reading/English language arts by having students study appealing, high-quality fiction and non-fiction books and providing teachers with teaching guides and student partner discussion guides for these books. Effective use of these books in the classroom is facilitated by sustained professional development for teachers that includes follow-up in-classroom assistance from peer coaches. The materials and professional development make it possible for teachers to use mastery-oriented activities, instructional practices, peer assistance processes, and assessments that help students become more strategic readers with better comprehension of what they read. One quantitative measure of teachers’ use of these “key practices in RELA” can be derived from students’ responses to items from the annual survey of classroom activities that was conducted in the Talent Development and comparison middle schools. (The survey also queried students about...
Table 4. Mean Key Practice Composite Scores for English/Language Arts Classes at Talent Development and Comparison Middle Schools (SD).

<table>
<thead>
<tr>
<th>Year</th>
<th>Type of School</th>
<th>Talent Development</th>
<th>Comparison</th>
<th>t</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997–1998</td>
<td>2.5 (0.43) n = 73 classes</td>
<td>2.0 (0.47) n = 68 classes</td>
<td>5.90***</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>1998–1999</td>
<td>2.4 (0.40) n = 120 classes</td>
<td>1.8 (0.55) n = 108 classes</td>
<td>9.21***</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>1999–2000</td>
<td>2.3 (0.35) n = 116 classes</td>
<td>1.9 (0.51) n = 118 classes</td>
<td>6.72***</td>
<td>0.78</td>
<td></td>
</tr>
<tr>
<td>2000–2001</td>
<td>2.2 (0.36) n = 111 classes</td>
<td>1.9 (0.48) n = 123 classes</td>
<td>5.58***</td>
<td>0.62</td>
<td></td>
</tr>
</tbody>
</table>

Note: Key practice data were collected in just four of the six schools in 1997–1998 and in all six schools in each succeeding year. Composite scores are based on students’ responses on a spring survey. Students were asked to tell, “how often the following things happened in English or Language Arts class this school year.” Each class was assigned a score that represented the mean response of the students in the class to the following survey items: “Students read aloud part of a book with a partner; Students discussed a book with a partner; Students worked in teams to master the vocabulary used in a book; Students composed meaningful sentences using vocabulary words from a book; After reading part of a book, students made predictions about what might happen in the rest of the book; Students explained answers to their teammates and checked to make sure that all their teammates understood the material; Students took turns with partners asking questions, and answering the questions the partners asked.” The response scale was: “never (0); once or twice a month (1); once or twice a week (2), most days (3), every day (4).”

*** p < 0.001.
Study 3: Motivation-Related Outcomes

Given Carol Midgley’s enduring interest in student motivation, it would be fitting to include here a detailed assessment of motivation-related outcomes in Talent Development and comparison middle schools. Carol would want to know about the personal goals of the students in our sample and their perceptions of the goal structure in their classrooms (Midgley, 2002). She would want to assess the degree to which they embrace help, novelty, and challenge (e.g., Gheen & Midgley, 1999; Ryan, Hicks & Midgley, 1997). She would want to know if the English teachers in our sample combined a positive interpersonal climate with a strong emphasis on mastery, learning, and understanding (Midgley, 2001) to communicate pedagogical caring – (Wentzel, 1997, “my teacher cares about us and our learning”). Finally, because of her early work on expectancy-value models of motivation, she would also be interested in assessing students’ expectancy for learning in English class, and their perceptions of the intrinsic and utility value of the tasks they are given in English class.

Unfortunately, the measures of motivation available to us from this sample were limited. Most of the annual student questionnaire was devoted to assessing the frequency of “key practices” in English, math, science, and social studies classes. However, in one TD school and one control school, we were also able to collect modest amounts of longitudinal data on motivation-related constructs. We were able to gather more extensive data in these two schools because they agreed to devote more time than the other schools to survey administration in the first three years. Both of these schools were 5–8 rather than 6–8 schools.

The motivation-related outcomes measured included indicators of selected expectancy-value constructs (Expectancy for Learning – “if I work hard in this class, I can learn a lot”; Task-Specific Expectancies – “I feel I am better at reading and comprehension because of activities in my English/Language Arts class;” “It helps my learning to discuss what I read with my classmates;” “I learn how to use new words by writing meaningful sentences;” “I’m learning about how writers write”; Intrinsic Value – “English/Language Arts class is interesting, exciting, and enjoyable”; and Utility Value – “the class is useful and helps prepare me for the future”). In addition, we measured Effort (“I’m working hard to learn about this subject”), Peer Support for Achievement (“My classmates believe it is important to come to school every day, want me to be a good student, and want to help me do my best work”), and Pedagogical Caring (“My teacher cares and is doing everything she can to help us improve our skills and increase our understanding”).

For each outcome except our composite measure of Task Specific Expectancies, data were available from both Spring 1998 and Spring 2000. The regression analyses reported here predict students’ motivation-related outcomes in Spring
Table 5. Multiple Regression Model Predicting Expectancy for Learning in Spring 2000.

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>β or Effect Size (ES)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>5.23</td>
<td>0.30</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>Prior expectancy for learning in Spring 1998</td>
<td>0.15</td>
<td>0.05</td>
<td>β = 0.16</td>
<td>0.001</td>
</tr>
<tr>
<td>Talent development</td>
<td>0.37</td>
<td>0.12</td>
<td>ES = 0.28</td>
<td>0.003</td>
</tr>
<tr>
<td>Student characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>−0.01</td>
<td>0.11</td>
<td>ES = −0.01</td>
<td>0.910</td>
</tr>
<tr>
<td>Seventh grader in Spring 2000</td>
<td>−0.06</td>
<td>0.11</td>
<td>ES = −0.06</td>
<td>0.604</td>
</tr>
<tr>
<td>English language learner</td>
<td>0.61</td>
<td>0.31</td>
<td>ES = 0.47</td>
<td>0.049</td>
</tr>
</tbody>
</table>

Note: Expectancy for Learning was measured by students’ response to the statement, “If I work hard in English language arts class, I can learn a lot.” The response scale ranged from 1 (strongly disagree) to 7 (strongly agree).

2000 (as 7th- or 8th-graders) while controlling for students’ prior scores on these outcomes (except in the analysis of Task Specific Expectancies) in Spring 1998 and for students’ gender, grade level, and English Language Learner status.

The Talent Development program had a positive impact on Expectancy for Learning (Table 5) and Pedagogical Caring (Table 6) in RELA class. Talent Development students scored about three tenths of a standard deviation higher on both of these outcomes than did comparison students. One’s prior scores on these outcomes and one’s English Language Learner status were also significant predictors. No significant sex differences were observed. Students who entered


<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>β or Effect Size</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>4.42</td>
<td>0.40</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>Prior pedagogical caring in Spring 1998</td>
<td>0.20</td>
<td>0.06</td>
<td>β = 0.15</td>
<td>0.002</td>
</tr>
<tr>
<td>Talent development</td>
<td>0.40</td>
<td>0.16</td>
<td>ES = 0.27</td>
<td>0.009</td>
</tr>
<tr>
<td>Student characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>0.01</td>
<td>0.14</td>
<td>ES = 0.01</td>
<td>0.917</td>
</tr>
<tr>
<td>Seventh grader in Spring 2000</td>
<td>−0.31</td>
<td>0.15</td>
<td>ES = −0.21</td>
<td>0.036</td>
</tr>
<tr>
<td>English language learner</td>
<td>0.74</td>
<td>0.36</td>
<td>ES = 0.49</td>
<td>0.043</td>
</tr>
</tbody>
</table>

Note: We measure Pedagogical Caring with a two-item composite: “My English/Language Arts teacher cares about how we feel” and “My English/Language Arts teacher does everything she or he can to help us improve our skills and increase our understanding.” The response scale ranged from 1 (almost never) to 7 (almost always).
this study as fifth-graders experienced less of an increase in Pedagogical Caring than did students who entered this study as sixth-graders.

Additional analyses indicate that Talent Development students experienced higher Peer Support for Achievement in their RELA class than did comparison students (effect size = 0.32, p = 0.002) and higher Task-Specific Expectancies (effect size = 0.33, p = 0.001). On the other hand, the Talent Development program had no significant impact on students’ perceptions of the intrinsic value or utility value of RELA class nor on their self-reported effort in RELA.

In sum, the Talent Development program impacted peer support for learning and students’ expectancies for learning in English class but not perceptions of the intrinsic or utility value of the class nor their perceptions of how hard they were working. This pattern of findings suggests that mastery-focused instructional programs such as Student Team Literature are not necessarily perceived as more interesting, exciting, enjoyable or useful by students even when these programs are effective in raising expectancies and achievement. A laser-like focus on learning and understanding may lead teachers to skip some engaging tangents and some “exciting” extension activities, if the tangent or activity is unlikely to add value to students’ learning or understanding. Furthermore, understanding-focused lessons and assignments allow students to learn more than before even if their level of effort remains about the same. These findings are a useful reminder that although expectancies and values and effort are highly correlated in some contexts, they are distinct outcomes. Similarly, it must be noted “engagement goals” and “utility goals” are distinct from “mastery goals.” For example, teachers or students who emphasize engagement goals will be content if students are interested in their work and enjoying class, even if little learning is occurring. Perhaps, that is why a fluff-filled “Crayola curriculum” is still prevalent even in middle school.

DISCUSSION

There has been little research in high poverty middle schools on the impact of mastery-oriented reforms of curriculum, instruction, and professional development across multiple schools and multiple years. Yet, it is in these schools that reform must ultimately succeed if the twin goals of raising adolescent literacy and closing reading achievement gaps are to be realized. The positive impacts found in all three studies suggest that low-performing urban middle schools that serve high poverty neighborhoods can realize substantial and systematic improvements in adolescent literacy, classroom instruction, and student motivation by implementing mastery-oriented reforms to the technical core of schooling – by changing curriculum, instructional materials, academic learning time, and
professional development – and by creating communal, supportive, “no-excuses”
learning environments.

that the foundation of successful and sustainable school reform is to alter the
thinking of educators and students. Specifically, they suggest that school reform
efforts need to alter educators’ and students’: (1) perceptions of the options
and alternatives available to them; (2) thoughts about self; and (3) purposes,
values, and goals.

For example, teachers’ actions in the classroom “are largely a result of the
options they think they have . . . . To change, teachers and staff must be aware of and
ultimately embrace another realistic option that is viewed not only as acceptable
but in some sense better.” (Maehr & Midgley, 1996, pp. 201–202). This is why,
to improve the learning opportunities and instructional methods that teachers
provide, it is so important to provide teachers with useful tools – such as book-
specific Partner Discussion Guides and cooperative learning structures and cycles
of instruction – that make the “new and improved” options doable and attractive.
Sustained professional development which includes modeling and simulations of
the new opportunities and methods accompanied by in-classroom coaching and
real-word demonstrations of the new options enacted in one’s own class or school
are important in helping teachers develop new mental models of what can and
should be done and to provide credible answers to teacher’s questions (How would
my students respond?) and workable solutions to obstacles (How could I manage a
cooperative classroom when I can’t even manage a traditional classroom?) Reform
concepts are not enough. Without reform tools and professional development
and coaching that gives teachers “a model to emulate” and “adaptable, adoptable
routines with which they can identify” (Maehr & Midgley, 1996, p. 206), most
teachers will conclude that they don’t have the energy, competence, or will to
make major changes.

Of course, one function of the high quality materials, professional development,
and coaching offered to teachers in Talent Development Schools is to enhance their
sense of competence by giving them “in-depth and focused exposure to concrete
examples that embody new possibilities” (Maehr & Midgley, 1996, p. 206). As
a result, teachers come to believe that there is a reasonable chance of success
if they implement Talent Development’s instructional programs. Similarly, one
important impact of the Talent Development Model’s communal organization
structure is to promote closer, longer-lasting relationships between students that
allow them to develop trust, a shared sense of purpose, and common goals. This
provides teachers with a “psychological safety net” (Maehr & Midgley, 1996,
p. 205), a confidence that it’s safe to take instructional risks with one’s students
because “we give each other some slack” when trying new things.
The results reported here bear witness to the promise of this approach to school reform. Using students as observers of their own classes, we found that teachers implemented hoped-for key practices much more than did teachers in the comparison schools. Despite all the turmoil experienced by urban schools, these differences in instructional practices were sustained at a reasonable level across four years and across three pairs of schools.

Perhaps just as important, students in Talent Development Schools reported a different culture in their school – a culture characterized by teachers who exhibit pedagogical caring and by peers who actively support achievement. A culture where students reported that their own expectancy for learning was high – they were confident that their own effort to learn was resulting in them becoming more proficient readers and better writers. These are major accomplishments. The alienation between teachers and students in many high-poverty middle schools is infamous. Classes where peer support for achievement is high and where students know that “if I work hard, I can learn a lot” are remarkably hard to find (Coleman, 1993; Wilson & Corbett, 2001). But, the results reported here show that it is possible to create a much more supportive learning environment in these schools.

The most important finding of all was that students in Talent Development Schools learned a remarkable amount – as evidenced by their impressive “catch up gains” in reading achievement that made it possible for them to “beat the odds” (as reflected by exceeding norms for achievement gains, both statewide norms and norms from matched comparison schools). As a result, Talent Development students left middle school with substantially more skill and understanding than when they began middle school.

Despite this encouraging evidence that “adequate yearly progress” toward proficiency can actually be attained and sustained, we are sobered by how far some middle school students still need to go to reach a solid level of understanding and proficiency. Talent Development Middle Schools were able to lower the percentage of students performing at the “below basic” proficiency level from 79% as fifth-graders to 57% as eighth-graders. This track record was substantially better than that in the comparison schools where 75% of the students were below basic as fifth graders and 63% as eighth-graders. Nonetheless, it is clear that reformers, educators, and parents must work together to develop even more opportunities for students to receive effective extra help (during the school day, after-school, on Saturdays and during the summer), so that even students with the weakest understanding can reach at least a basic level of proficiency before reaching high school. Having 57% of students from reformed high-poverty middle schools entering high school without a basic foundation of mastery, though a significant improvement and a major accomplishment for these schools, is still too many.
We hope others will join us in developing and researching scaleable, mastery-oriented programs that help teachers, administrators, students, and parents to become learning-focused and receive the opportunities and supports they need in order for learning to flourish in our nation’s high poverty middle schools. As Carol Midgley (2002, p. 54) once said, “If the same national commitment, media attention, and financial support were put into helping middle school educators provide a mastery-focused learning environment as has been put into the high stakes testing movement, we would be well on our way to providing highly effective middle schools for all young adolescents.” Let us work together to make it so!

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REFERENCES


Developing Adolescent Literacy in High Poverty Middle Schools


